

Notice of Allowability

Application No.

10/566,229

Examiner

Dana Ross

Applicant(s)

HYUN, YOUNG-JIN

Art Unit

3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Application filed 1/27/06.
2. ☒ The allowed claim(s) is/are 1-5.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>1/27/06</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

Allowable Subject Matter

1. Claims 1-5 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art neither anticipates nor renders obvious an apparatus for detecting a position of a drawbar unit of an automatic tool exchange device as claimed in independent claim 1, specifically wherein the combination of limitations of the drawbar unit includes the core, coil section, LC oscillator and position detecting section as claimed.

US Pat. No. 5,613,929 (Bayer) teaches a spindle drive motor which is advanced and retracted with a drawbar 121 assembly located inside the spindle for coupling to a tool holder adapter mounted in a tool change magazine (see figure 3b, for example).

Bayer does not teach or suggest the drawbar unit with the core, coil section, LC oscillator, or position detecting section as claimed.

Therefore Bayer does not anticipate the claimed invention.

US Pat. No. 6,447,928 (Newell et al.) teaches a lathe with a drawbar 58 with alignment mechanism 50 and adapter 54 (see figure 4, and col. 7, lines 14-29, for example) with a number of different sensing configurations as part of the sensing mechanism and control mechanism, one sensing device is the use of an accelerometer with a coil 435 and coil oscillator (see col. 15, lines 38-41, for example) and an F/V converter 439 (see col. 15, line 66 - col. 16 line 3, for example), the use of magnet 450 (see col. 16, lines 9-10 and lines 56-57); a coil spring (section) to open the core (solenoid) (see col. 18, lines 55-65, for example), an A/D converter 620 (see col. 18, lines 3-5, for example).

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Newell does not disclose detecting the position of a drawbar unit of an automatic tool exchange device or the specifics of the LC oscillator or main controller.

Therefore Newell does not anticipate the claimed invention.

US Pat. No. 5,619,133 (Shank et al.) teaches a control circuit coupled to a conductive coil for use on machine tools (col. 12, lines 10-13, for example) with an LC oscillator 142, coil 204 (see col. 7, lines 59-67, for example) F/V converter 260 and a controller (col. 3, lines 50-53, for example).

Shank does not disclose the specifics of the drawbar or the drawbar unit of an automatic tool exchange device.

Therefore Shank does not anticipate the claimed invention.

Furthermore, there is no prior art, either alone or in combination with the above cited prior art, that would render obvious the claimed invention, and no motivation found to modify the prior art to obtain the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

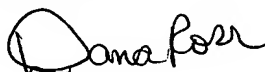
2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Ross whose telephone number is 571-272-4480. The examiner can normally be reached on Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Carter can be reached on 571-272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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Art Unit 3722


dmr